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REMARKS

Applicants note with appreciation the allowance of claim 21.

Applicants have corrected the abstract as indicated by the Examiner.

Applicants also have amended claim 1 to delete adhesive layers using an acid functionality. Claims 23 and 24 have been added to claim specific embodiments of this invention.

These amendments are not the addition of new matter nor do they raise new issues. Accordingly, Applicants respectfully ask that the Examiner enter them.

Applicants respectfully traverse the rejection of claims 1, 5 – 7 and 14 – 20 under 35 U.S.C. 103(a) as obvious over Spies et al.

Claims 1, 5 – 7, 14 – 15 and 17 – 20, 23 and 24 as amended, patentably distinguish over Spies et al. in the recitation of

a water dissolvable, continuous phase substrate,

a water dissolvable, continuous phase adhesive layer, and

a water dissolvable, continuous phase adherent layer

wherein the water dissolvable, continuous phase adhesive layer is at least one organic compound incorporating one or more high polarity function groups of an alcohol functionality, a ketone functionality, an aldehyde functionality, or an ester linkage.

Nowhere do Spies et al. disclose or suggest this.

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Spies et al. do not disclose or suggest the water dissolvable, continuous phase adhesive layer and the water dissolvable, continuous phase abherent layer Applicants claim.

Spies et al. only disclose adhesives based on polymers of acrylic acid, other comonomers and a considerable amount of plasticizers or resins.

Nowhere do Spies et al. disclose an adhesive layer using the organic compounds Applicants claim.

Nowhere do Spies et al. disclose or suggest the abherent layer Applicants claim.

Enclosed is the Declaration of Colleen Zielske, who is a technical expert in the label industry for food service businesses. In that Declaration, Ms. Zielske states that as explained on pages 5 to 7 of the specification, water dissolvable within the context of this invention means dispersible, dissolution or susceptible of dissolution in water within a convenient time frame.

The term, "dissolve" and its related forms, "dissolvable," and "dissolved," and "dissolution," in the context of this patent application is defined to refer to a separation of a material into small components under the influence of a solvent medium, and not to a complete separation into separate molecules or atoms. For example, a paper material is said to be

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dissolved if it breaks down into separated cellulose fibers, even though those fibers themselves are not separated into their constituent cellulose and lignin molecules. Similarly, an adhesive layer can be dissolved and effectively removed if it is separated into aggregations of molecules. Similarly, an adhesive can be dissolved and effectively removed if it is separated into aggregations of molecules that are each capable of water removal, particularly if they are encased in a layer with a hydrophilic nature to facilitate their suspension into a latex, colloid, or micellar form.

Colloids or micelles must be small enough to freely flow down a drain without clogging. Also, they are not visible to the naked eye. This is different than repulpable. To be repulpable, the colloid/micelle must be large enough to be effectively filtered and removed. A dissolvable adhesive does not have affinity to itself, but a repulpable adhesive does.

To achieve dissolution of the entire tape, comprising, in general, a release layer, a substrate layer, and an adhesive layer, each layer, individually and collectively, must be susceptible of dissolution in water within a convenient frame of time. Typically, this is in the range of 30 seconds.

The water dissolvable materials claimed in the above-identified patent application meet this test of dispensability or susceptibility of dissolution in

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water within a convenient time frame. For example, an abherent layer of lechithin meets this test as does an abherent layer of silicone. Applicants' starch or paper substrate meets the test as does the adhesives claimed by Applicants.

The reputable adhesives of Spies et al., however, do not meet Applicants' test, setting forth requirements for dissolvable as set forth above. Nor do the release layers of Spies et al. meet the test. The repulping of Spies et al. requires different materials than Applicants' invention as set forth in the claims because Spies et al. re-cycle the carton sealing tape. Applicants tape components must dispense in the sense that they will be separated into small, removable constituent portions leading to direct removal.

See page 6, lines 1 - 9 of the specification. The repulpable release layer of Spies et al. must be silicone free, whereas Applicants abherent layer include silicones.

The release layers of Spies et al. are copolymers of amide/styrene, in particular N-Stearylmaeamide and styrene, mixed with film-forming agents, in particular polyvinyl alcohols of various molecular weights and degrees of hydrolysis.

Spies et al. only disclose adhesives based on polymers of acrylic acid,

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other comonomers and a considerable amount of plasticizers or resins.

Nowhere do Spies et al. disclose an adhesive layer using the linkages Applicants claim, namely the functionalities set forth in the claims.

Huber discloses a recoverable masking tape. Huber discloses a flexible, conformable, polymeric tape. This polymer substrate is not the dispersible substrate Applicants claim.

Huber claims to use appropriate water-soluble adhesives that are commercially available. As an example of a suitable water soluble adhesive Huber mentions XR1377/224 available from H.B. Fuller Co., St. Paul, Minn.

As set forth in the Declaration of Colleen Zielske, this adhesive is not commercially available.

Further, Huber incorporates the release agents into film forming compositions which include among other ingredients, pressure sensitive adhesives.

Huber does not disclose or suggest a water dissolvable, continuous phase adherent layer. Huber does not expressly teach the genus of a release coating. Huber only discloses release agents mixed into the adhesives.

The present invention addresses the need for a water dissolvable adhesive tape by enabling such tape to be "self-wound," that is, to be

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directly wound onto itself on a spool without the inclusion of an intervening layer of release material between each layer of labels or tape. This is achieved through the use of combinations of adhesive layer formulations and release layer formulations that are mutually abherent, thereby allowing the easy unwinding of the tape for use.

New claims 23 and 24 equally patentably distinguish over the prior art. Claim 23 claims the combination of an adhesive layer comprising an organic compound of an ester linkage and abherent layer comprising lecithin. Claim 24 claims the embodiment of the adhesive layer comprising silicones.

Accordingly, Applicants respectfully ask that the Examiner withdraw the rejections under 35 U.S.C. §103.

Clearly, Applicants have provided a unique solution to a special problem.

Therefore, Applicants respectfully submit that claims 1, 5 – 7 and 14 – 15, 17 – 20, and 23 – 24 as amended are in condition for allowance and respectfully ask

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that the Examiner pass these claims and claim 21 to issue.

Respectfully submitted,

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